REMARKS

Preliminary Remarks

This Second Response Pursuant to 37 C.F.R. §1.116 is being filed in response to the September 6, 2005 Final Office Action. This response is also being filed concurrently with a Request for Continued Examination.

In a February 28, 2006 telephone conversation with the Examiner, the Examiner indicated that the amendments presented in applicants' December 6, 2005 Response to the Final Office Action have not been entered. The Examiner further indicated that an Advisory Action had been prepared and was to be mailed shortly. Although applicants have not received the Advisory Action as of the mailing of this response, the Examiner discussed briefly the substance of the Advisory Action.

Accordingly, the claim amendments made herein are based on the claims as pending and examined in the September 6, 2005 Final Office Action. The remarks made herein respond to the Final Office Action and are in consideration of the February 28, 2006 telephone conversation with the Examiner.

Applicants respectfully request that this Second Response be entered in place of the first response filed December 6, 2005.

Prior to the entry of this response, claims 1, 2, 5, 6-14, 17, 42, 45-47 and 51-65 are pending. Applicants have added claims 66-80, which are based on claims 6-14, 42, 45-47. Applicants submit that added claims 66-80 are fully supported by the application as filed and do not contain new matter. Claim 17 has been canceled so that it

¹ A review of the United States Patent and Trademark Office PAIR web site indicates that an Advisory Action was prepared on March 1, 2006 but had not been mailed as of March 3, 2006.

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is no longer redundant over claim 12. Upon entry of this response, claims 1, 2, 5, 6-14, 42, 45-47 and 51-80 will be pending.

Amendments to the Claims

Applicants have amended claim 1 to delete reference to SEQ ID NO:98 and to recite "a peptide, the sequence of which is ... (SEQ ID NO:99)."

Applicants have amended claim 6 and 42 so that the language recites "wherein the sequence of the peptide is selected ... (SEQ ID NO: 98) and ... (SEQ ID NO: 99)."

Applicants have canceled claim 17.

Applicants have amended claims 47 and 65 to recite "...Vpv and Rev."

This amendment corrects claim form and constitutes no new matter.

Applicants have added claims 66-80. Claim 66 is drawn to a purified peptide, the sequence of which is RRQRRQRR (SEQ ID NO:98). Added claims 67-80 are based on the claims as originally filed, specifically claims 6-14, 42 and 45-47. Added claims 67-80 are also based on pending claims 51-65, which are likewise based on claims 6-14, 42 and 45-47. Added claims 67-80 simply claim one peptide (*i.e.*, SEQ ID NO:98) of the group of peptides consisting of SEQ ID NO: 98 and SEQ ID NO: 99. Thus, applicants assert that the new claims are fully supported by the original specification and do not constitute new matter.

Applicants respectfully request entry of the above amendments and added claims 66-80.

The Objection to the Claims

The Examiner has objected to claim 17 for allegedly failing to further limit claim 12. Applicants have deleted claim 17, rendering the objection thereto moot.

The Rejections under 35 U.S.C. §102

The Examiner has rejected claims 1, 2 and 5 under 35 U.S.C. §§ 102(b) and 102(e) as allegedly anticipated by International Patent Publication No. WO98/44147 (published October 1998; the "147 publication") and U.S. Patent No. 5,989,814 (filed April 1, 1997; the "814 patent"), respectively. The Examiner alleges that Figure 7 of both the '147 publication and the '814 patent teach a peptide, the sequence of which reads on the instant claimed peptide of SEQ ID NO: 98. Figure 7 teaches, *inter alia*, a peptide, the sequence of which is "AAAA GRRORRORRRRRR AAAR." The bold, underline indicates the claimed peptide sequence of SEQ ID NO:98.

The Examiner has further rejected claims 1, 2, and 5 under 35 U.S.C. § 102(b), allegedly as anticipated by International Patent Publication No. WO97/41252 (published November 1997; the "'252 publication") teaches a Mycobacterium tuberculosis protein comprising sequence of RRQRRQRR. The Examiner alleges that Figure 14, amino acids 391-398 of the '252 publication read on the instant claimed peptide of SEQ ID NO: 98. The Examiner has further rejected claims 1, 2, and 5 under 35 U.S.C. § 102(e), as allegedly anticipated by U.S. Patent No. 6,680,170 (effective filing date April 14, 1998; the "'170 patent"). The Examiner contends that the '170 patent teaches a novel protein kinase protein having sequence RRQRRQRR. Specifically, the

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Examiner contends that amino acids 361-368 of SEQ ID NO: 105 read on the instant claimed sequence of RRQRRQRR.

Claim 1 has been amended so that RRQRRQRR (SEQ ID NO:98) is no longer recited. Applicants assert that neither the '147 publication, the '252 publication, the '814 patent nor the '170 patent anticipate amended claim 1.

A peptide of sequence RRQRRQRR (SEQ ID NO:98) is provided for in new claim 66 as a "purified peptide, the sequence of which is RRQRRQRR (SEQ ID NO:98). Applicants assert that neither the '147 publication, the '252 publication, the '814 patent nor the '170 patent teach a purified peptide of RRQRRQRR (SEQ ID NO: 98). Accordingly, applicants respectfully request that the rejections of claims 1, 2 and 5 under 35 U.S.C. §§ 102(b) and (e) as anticipated by the '147 publication and the '252 publication, and the 814 patent and the '170 patent, respectively, be withdrawn.

The Nonstatutory Double Patenting Rejection

The Examiner has provisionally rejected claims 1, 2, 5-14, 17, 42, 45-47 under a provisional, obviousness-type double patenting, as being unpatentable over claims 1-15 of copending application No. 10/366,493 (the "493 application"). The Examiner has also rejected claims 1, 2 and 5 under the under the same double patenting rejection, as being unpatentable over claim 22 of copending application No. 10/650,435 (the "435 application"). The Examiner states that a timely filed terminal disclaimer may overcome these rejections, provided the conflicting application or patent is shown to be commonly owned with this application.

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As discussed above, applicants have canceled claim 17, rendering the rejection thereof moot. With respect to the remaining rejected claims, applicants submit herewith a Terminal Disclaimer signed by the undersigned.² An Assignment of the instant application was recorded at Reel 013265, Frame 0801 on September 9, 2005, assigning the invention to the University of Pittsburgh. A copy of the Assignment and Notice of Recordation of Assignment is attached herewith at Exhibit 1.

An assignment of the '435 application was recorded at Reel 014769, Frame 0359 on December 8, 2003. A copy of the Assignment and Notice of Recordation of Assignment is attached herewith at Exhibit 2.

An assignment of the '493 application was submitted for recordation in the United States Patent and Trademark Office on December 6, 2005. A copy of the Assignment and recordation form cover sheet is attached herewith at Exhibit 3.

By virtue of the above-identified assignments assigning the inventions to the University of Pittsburgh, Applicants have established common ownership of the conflicting patent applications and the instant application. As such, Applicants respectfully request entry of the Terminal Disclaimer and withdrawal of the provisional nonstatutory double patenting rejection of claims 1-2, 5-14, 42 and 45-47.

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² Applicants filed the instant Terminal Disclaimer and Exhibits 1-3 with the December 6, 2005 Response. A review of the United States Patent and Trademark Office PAIR web site indicates that the Terminal Disclaimer has been approved. However in the absence of an official communication that the Terminal Disclaimer has been entered and made of record, applicants resubmit the Terminal Disclaimer and accompanying Exhibits 1-3 herewith.

Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 51-65 are allowed.

Conclusion

Applicants earnestly request that the Examiner consider the above remarks, enter the amendments, and allow the claims to issue. Applicants respectfully invite the Examiner to telephone the undersigned if such an telephone conversation would be useful in advancing prosecution of the instant application.

Other than the fee for the three (3)-month extension of time to file this response, and the fee for the Request for Continued Examination, applicants believe that no additional fee is due. However, applicants authorize, in the Fee Transmittal Form (submitted herewith in duplicate) the Director to charge payment of any additional fees or credit any overpayment associated with this Response to Deposit Account No. 02-4377.

Respectfully submitted,

Kimberley A. Favin

Reg. No. 51,723

Agent for Applicants

Lisa B. Kole

Reg. No. 35,225

Attorney for Applicants

BAKER BOTTS L.L.P.

Customer No. 21003

30 Rockefeller Plaza

New York, NY 10112

(212) 408-2628



NOVEMBER 26, 2002

PTAS

BAKER BOTTS, LLP ALICIA A. RUSSO 30 ROCKEFELLER PLAZA, 44TH FL. NEW YORK, NY 10112 Under Secretary of Commerce For Intellectual Property and Director of the United States Patent and Trademark Office Washington, DC 20231 www.uspto.gov



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RECORDATION DATE: 09/05/2002

REEL/FRAME: 013265/0801

NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

ROBBINS, PAUL D.

DOC DATE: 08/19/2002 DEC −5 AM 7 (3)

ASSIGNOR:

MI, ZHIBAO

DOC DATE: 08/19/2002

ASSIGNOR:

FRIZZELL, RAYMOND

DOC DATE: 08/19/2002

ASSIGNOR:

GLORIOSO, JOSEPH

DOC DATE: 08/19/2002

ASSIGNOR:

GAMBOTTO, ANDREA

DOC DATE: 08/19/2002

ASSIGNEE:

UNIVERSITY OF PITTSBURGH OF THE COMMONWEALTH SYSTEM OF HIGHER EDUCATION

200 GARDNER STEEL CONFERENCE CENTER

PITTSBURGH, PENNSYLVANIA 15260

013265/0801 PAGE 2

SERIAL NUMBER: 10075869

PATENT NUMBER:

FILING DATE: 02/13/2002

ISSUE DATE:

SAUNDRA BALLENGER, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

RECORDATION PATE

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Patent and Trademark Office

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1. Name of conveying party(ies): Paul D. Robbins, Zhibao Mi, Raymond Frizzell, Joseph Glorioso Additional name(s) of conveying party(ies) attached? Yes [] No	2. Name and address of receiving party(ies) Name: UNIVERSITY OF PITTSBURGH of the COMMONWEALTH SYSTEM OF HIGHER EDUCATION		
3. Nature of conveyance:	Address: 200 Gardner Steel Conference Center		
✓ Assignment [] Merger [] Security Agreement [] Change of Name			
[] Other:	City: Pittsburgh State: PA Zip: 15260		
Execution Date: 8/19/02, 8/19/02, 8/19/02, 8/19/02	Additional name(s) and address(es) attached? Country: US [] Yes No		
4. Application number(s) or patent number(s)			
If this document is being filed together with a new application, the ex	B. Patent No.(s) Patent No.(s) PROCE SE		
A. Patent Application No.(s)	B. Patent No.(s)		
10/075,869, filed February 13, 2002	B. Patent No.(s)		
	E 5 S		
7	SEC SEC		
Additional numbers attached?	[] Yes 6 1 Ng		
 Name and address of party to whom correspondence concerning document should be mailed: 	6. Total number of applications and patents involved: 1		
Name:	7. Total fee (37 CFR 3.41): \$ 40.00		
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30 Rockefeller Plaza - 44 Fl.	[] Authorized to be charged to deposit account		
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9. Statement and signature			
To the best of my knowledge and belief, the foregoing instrument original document.	ation is true and correct and any attached copy is a true copy of the		
Alicia A. Russo	August 28, 2002		
Name of Person Signing	Signature Date		
Page of			
rotal number of pages including cover sheet, attachments and documer	nt:		

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To the Honorable Commissioner of Patents and Trademarks	Please record the attached original documents or copy thereof.
0. Additional Names of assigning party(ies):	10a. Additional Names of receiving party(ies):
Andrea Gambotto	
1. Application number(s) or registration number(s):	
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Patent Application No.(s)	B. Patent Registration No.(s)
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ASSIGNMENT

WHEREAS, WE, PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; and ANDREA GAMBOTTO, citizens of the United States of America, China the United States of America, the United States of America, and Italy respectively, whose post office addresses are 191 Main Entrance Drive, Mt. Lebanon, Pennsylvania 15228; 221 Buchanan Place, Apt. C2, Pittsburgh, Pennsylvania 15228; 5304 Forbes Ave., Pittsburgh, Pennsylvania 15217; 202 Scarborough Dr. Cheswick, Pennsylvania 15024; 1250 South Negley Ave. Pittsburgh, Pennsylvania 15217, respectively, have made an invention entitled "IDENTIFICATION OF PEPTIDES THAT FACILITATE UPTAKE AND CYTOPLASMIC AND/OR NUCLEAR TRANSPORT OF PROTEINS, DNA AND VIRUSES" as set forth and described in application for Letters Patent of the United States, filed February 13, 2002, and assigned United States Patent Application Serial No. 10/075,869; and

WHEREAS, UNIVERSITY OF PITTSBURGH of the Commonwealth System of Higher Education, a corporation organized and existing under the laws of the State of Pennsylvania, and having an office for the transaction of business at 200 Gardner Steel Conference Center, Pittsburgh, Pennsylvania 15260, is desirous of acquiring the entire right, title and interest in and to said invention and any improvements thereon, and in and to the said application for Letters Patent therefor, and any Letters Patent which may be obtained therefor;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that WE, the said PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; and ANDREA GAMBOTTO, for and in consideration of the sum of One Dollar (\$1.00), lawful money of the United States, to us in hand paid by said UNIVERSITY OF PITTSBURGH, and other valuable considerations unto us moving from said UNIVERSITY OF PITTSBURGH, at or before the ensealing and delivery of these presents, the receipt of which is hereby acknowledged, have sold, assigned, transferred and conveyed and by these presents do sell, assign, transfer and convey, unto said UNIVERSITY OF PITTSBURGH, its successors and assigns, the entire right, title and interest in and to the said invention entitled "IDENTIFICATION OF PEPTIDES THAT FACILITATE UPTAKE AND CYTOPLASMIC AND/OR NUCLEAR TRANSPORT OF PROTEINS, DNA AND VIRUSES" as set forth and described in application for Letters Patent of the United States, filed herewith, and any and all improvements thereon, and in and to said application and any division, continuation or continuation-in-part thereof, and in and to any Letters Patent of the United States which may be issued on any of said applications, and any reissues thereof, and in and to any and all applications for Letters Patent filed in foreign countries for said invention or improvements including all priority rights, and any and all Letters Patent which may be granted in foreign countries therefor, TO HAVE AND TO HOLD THE SAME to the full end of the term or terms for which any and all said Letters Patent may be granted:

AND WE, the said PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; and ANDREA GAMBOTTO, do hereby authorize and request the

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AND THE STATE OF T

Commissioner of Patents and Trademarks to issue the said Letters Patent of the United States to said UNIVERSITY OF PITTSBURGH, as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said UNIVERSITY OF PITTSBURGH, its successors and assigns;

AND WE, the said PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; and ANDREA GAMBOTTO, for the considerations aforesaid, do hereby covenant and agree to and with said UNIVERSITY OF PITTSBURGH, its successors and assigns, that we have the full power to make this assignment, and that the rights assigned are not encumbered by any grant, license or right heretofore given, and that we, our executors or administrators, shall and will do all lawful acts and things and make, execute and deliver without further compensation, any and all other instruments in writing, further applications, papers, affidavits, powers of attorney, assignments, and other documents which, in the opinion of counsel for said UNIVERSITY OF PITTSBURGH, its successors and assigns, may be required or necessary more effectively to secure to and vest in said UNIVERSITY OF PITTSBURGH, its successors and assigns, the entire right, title and interest in and to said invention and improvements, applications, Letters Patent, rights, titles, benefits, privileges, and advantages hereby sold, assigned, transferred and conveyed, and that we will sign any applications for reissue which may be desired by the owner of the patent or patents which may be issued for the said invention or improvements.

IN WITNESS WHEREOF, WE, the said PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; and ANDREA GAMBOTTO, have hereunto set our hands and seals on the date below written.

PAUL D. ROBBINS

STATE OF PENNSYLVANISA

COUNTY OF A LLEGHENY)

BE IT KNOWN, that on this <u>19</u> day of <u>AUGUST</u>, 2002, before me personally came PAUL D. ROBBINS, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned.

Notary Public

	ZHIBAO MI
STATE OF PENNSYLVANIA	
STATE OF PENNSYLVANIA : ss.: COUNTY OF ALLEGHENY)	
BE IT KNOWN, that on this <u>19</u> day personally came ZHIBAO MI, to me known and know who executed the foregoing assignment, and he acknows his free act and deed for the use and purposes there	wn to me to be the person mentioned in and owledged to me that he executed the same
	Salsy Boses Guyri J Notary Public
	RAYMOND FRIZZELL
STATE OF PENNSYLVANIA : ss.:	
: ss.: COUNTY OF ALLEG-H ENY)	

BE IT KNOWN, that on this 19 day of AUGUST, 2002, before me personally came RAYMOND FRIZZELL, to me known and known to me to be the person

executed the same as his free act and deed for the use and purposes therein mentioned.

mentioned in and who executed the foregoing assignment, and he acknowledged to me that he

Notary Public

Patry Boses Sugar of

ANCHEN
JOSEPH C. GLORIOSO
STATE OF PENNSYLVENIA : ss.: COUNTY OF ALLEGHENY)
COUNTY OF ALLEGHENY)
BE IT KNOWN, that on this /9 day of AULUST, 2002, before me personally came JOSEPH C. GLORIOSO, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned.
Patry Boses Guyri of
Notary Public
ANDREA GAMBOTTO
STATE OF DENNSYLANIA
STATE OF DENNSYLANI'S : ss.: COUNTY OF ALLECHENY)
BE IT KNOWN, that on this <u>//</u> day of <u>AUCUST</u> , 2002, before me personally came ANDREA GAMBOTTO, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned.
Patry Boses Huggi of
Notary Public
Notarial Seal Patsy Bosco Guzzi, Jr., Notary Public Pittsburgh, Allegheny County My Commission Expires Apr. 27, 2004

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Member, Pennsylvania Association of Notaries



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JUNE 24, 2004

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BAKER BOTTS L.L.P. CARMELLA L. STEPHENS 30 ROCKEFELLER PLAZA - 44 FL. NEW YORK, NY 10112

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RECORDATION DATE: 12/08/2003

REEL/FRAME: 014769/0359

NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

ROBBINS, PAUL

DOC DATE: 11/06/2003

ASSIGNOR:

FRIZZELL, RAYMOND

DOC DATE: 11/06/2003

ASSIGNOR:

SUN, FEI

DOC DATE: 11/06/2003

ASSIGNOR:

MI, ZHIBAO

DOC DATE: 11/06/2003

ASSIGNEE:

PITTSBURGH, UNIVERSITY OF W1148 BIOMEDICAL SCIENCE TOWER PITTSBURGH, PENNSYLVANIA 15261

014769/0359 PAGE 2

SERIAL NUMBER: 10650435

FILING DATE: 08/28/2003

PATENT NUMBER:

ISSUE DATE:

TITLE: POLYPEPTIDES FOR INCREASING MUTANT CFTR CHANNEL ACTIVITY

SHAREILL COLES, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

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Patent and Trademark Office

	Name of conveying party(ies): aul Robbins, Raymond Frizzell, Fei Sun and Zhibao Mi litional name(s) of conveying party(ies) attached? [] Yes No No	2. Name and address of receiving party(ies) Name: UNIVERSITY OF PITTSBURGH
3.	Nature of conveyance:	Address: W1148 Biomedical Science Tower
	Assignment [] Merger [] Security Agreement [] Change of Name	
	[] Other:	City: Pittsburgh State: PA Zip: 1526 Additional name(s) and address(es) attached? Country: USA
Exe	ecution Date: November 6, 2003	[] Yes No
4.	Application number(s) or patent number(s)	
If th	nis document is being filed together with a new application, the e	Execution date of the application is B. Patent No.(s) C. P. C. P
	Patent Application No.(s)	B. Patent No.(s)
	10/650,435	
	Additional numbers attached?	[] Yes No
5.	Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: One
	Name:	7. Total fee (37 CFR 3.41): \$ 40
	BAKER BOTTS L.L.P.	Enclosed
	30 Rockefeller Plaza - 44 Fl.	[] Authorized to be charged to deposit account
	New York, NY 10112	Deposit account number: 02-4377 (Charge any additional fees to this account) (Attach duplicate copy of this page if paying by deposit account)
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9.	Statement and signature	
	To the best of my knowledge and belief, the foregoing instrument original document.	ntation is true and correct and any attached copy is a true copy of t
	Carmella L. Stephens, PTO Reg. No. 41,328	Mymulle &. Attohis 12/04/2003
	Name of Person Signing	Signature Date
age	<u>1</u> of <u>3</u>	
`ota	I number of pages including cover sheet, attachments and docum	ent· 7

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11. Application number(s) or registration number(s):	
A. Patent Application No.(s)	B. Patent Registration No.(s)
Page 1 of 3	
<u> </u>	
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Commissioner of Patent PO Box 1450 Alexandria, VA 22313-1 MS Assignments	

<u>ASSIGNMENT</u>

WHEREAS, WE, PAUL ROBBINS, RAYMOND FRIZZELL and FEI SUN, citizens of the United States of America, and ZHIBAO MI, a citizen of China (hereinafter the "INVENTORS"), whose post office addresses are 191 Main Entrance Drive, Mt. Lebanon, Pennsylvania 15228, 1205 Heberson Street, Pittsburgh, Pennsylvania 15206, 186 Warren Road, Warrendale, Pennsylvania 15086 and 221 Buchanan Place, Pittsburgh, Pennsylvania 15228, respectively, have made an invention entitled "POLYPEPTIDES FOR INCREASING MUTANT CFTR CHANNEL ACTIVITY", as set forth and described in U.S. Patent Application No. 10/650,435 filed August 28, 2003; and

WHEREAS, UNIVERSITY OF PITTSBURGH, a corporation organized and existing under the laws of The United States of America, and having an office for the transaction of business at W1148 Biomedical Science Tower, Pittsburgh, PA 15261, is desirous of acquiring the entire right, title and interest in and to said invention and any improvements thereon, and in and to the said U.S. application for Letters Patent therefor, and any Letters Patent which may be obtained therefor;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that WE, the said INVENTORS, for and in consideration of the sum of One Dollar (\$1.00), lawful money of the United States, to us in hand paid by said UNIVERSITY OF PITTSBURGH, and other valuable considerations unto us moving from said UNIVERSITY OF PITTSBURGH, at or before the ensealing and delivery of these presents, the receipt of which is hereby acknowledged, have sold, assigned, transferred and conveyed and by these presents do sell, assign, transfer and convey, unto said UNIVERSITY OF PITTSBURGH, its successors and assigns, the entire right, title and interest in and to the said invention entitled "POLYPEPTIDES FOR INCREASING MUTANT CFTR CHANNEL ACTIVITY", as set forth and described in application for Letters Patent, Serial No. 10/560,435, filed August 28, 2003, and any and all improvements thereon, and in and to said application for Letters Patent therefor, and any division, continuation or continuation-in-part thereof, and in and to any Letters Patent of the United States which may be issued on any of said applications, and any reissues thereof, and in and to any and all applications for Letters Patent filed in foreign countries for said invention or improvements including all priority rights, and any and all Letters Patent which may be granted in foreign countries therefor, TO HAVE AND TO HOLD THE SAME to the full end of the term or terms for which any and all said Letters Patent may be granted;

AND WE, the said INVENTORS, do hereby authorize and request the Commissioner of Patents and Trademarks to issue the said Letters Patent of the United States to said UNIVERSITY OF PITTSBURGH, as the Assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said UNIVERSITY, OF) PITTSBURGH, its successors and assigns; Unwellight Del

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AND WE, the said INVENTORS, for the considerations aforesaid, do hereby covenant and agree to and with said UNIVERSITY OF PITTSBURGH, its successors and assigns, that we have the full power to make this assignment, and that the rights assigned are not encumbered by any grant, license or right heretofore given, and that we, our executors or administrators, shall and will do all lawful acts and things and make, execute and deliver without further compensation, any and all other instruments in writing, further applications, papers, affidavits, powers of attorney, assignments, and other documents which, in the opinion of counsel for said UNIVERSITY OF PITTSBURGH, its successors and assigns, may be required or necessary more effectively to secure to and vest in said UNIVERSITY OF PITTSBURGH, its successors and assigns, the entire right, title and interest in and to said invention and improvements, applications, Letters Patent, rights, titles, benefits, privileges, and advantages hereby sold, assigned, transferred and conveyed, and that we will sign any applications for reissue which may be desired by the owner of the patent or patents which may be issued for the said invention or improvements.

IN WITNESS WHEREOF, WE, the said INVENTORS, have hereunto set our hands and seals on the date below written.

PAUL ROBBINS

STATE OF

) : ss.:

)

COUNTY OF

BE IT KNOWN, that on this day of November, 2003, before me personally came PAUL ROBBINS, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned.

otary Public

Notatel Seal
Floree Glies, Notary Public
City Of Pittsburgh, Allegheny County
Mr Commission Expires Dec. 24, 2005

Mamber, Pennsylvania Association Of Notaries

		RATIOND PRIZZELL
STATE OF)	
COUNTY OF	: ss.:)	
personally came l	RAYMOND FRIZZELL, I in and who executed the	is 6 day of November, 2003, before me to me known and known to me to be the foregoing assignment, and he acknowledged act and deed for the use and purposes therein
		RenerHiles
		Notary Public
		Notarial Seal Ranee Giles, Notary Public City Of Pittsburgh, Allegheny County My Commission Expires Dec. 24, 2005 Member, Pennsylvania Association Of Notaries
STATE OF)	SUŃ FEI V
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personally came S and who executed	UN FEI, to me known an the foregoing assignmen	day of Normber, 2003, before me ad known to me to be the person mentioned in t, and he acknowledged to me that he executed and purposes therein mentioned.
		Notary Public
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Member, Pennsylvania Association Of Notarles

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		MI ZHIBAO	
STATE OF)		
	: ss.:		
COUNTY OF)	(

BE IT KNOWN, that on this day of November, 2003, before me personally came MI ZHIBAO, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned.

Netary Public

Notarial Seal Flance Giles, Notary Public City Of Pittsburgh, Allegheny County My Commission Expires Dec. 24, 2005

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Form PTO-1595 (Rev. 07/05) OMB No. 0651-0027 (exp. 6/30/2008)

U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office

	ORM COVER SHEET
	TS ONLY Docket No.: AP32573-A-A-A (072396
	ise record the attached documents or the new address(es) below.
1. Name of conveying party(ies) Paul D. Robbins - 11/30/05 Zhibao Mi - 11/30/05 Raymond Frizzell - 11/30/05 Joseph C. Glorioso - 11/18/05 Andrea Gambotto - 12/05/05 Jeffrey C. Mai - 11/07/05	2. Name and address of receiving party(ies) Name: University of Pittsburgh Internal Address:
Additional name(s) of conveying party(ies) attached? Yes No. 3. Nature of conveyance/Execution Date(s): Execution Date(s) 11/30/05 - 11/30/05 - 11/30/05 - 11/18/05 - 12/05/05 - 11/07/05 Assignment Merger	Street Address: 200 Gardner Steel Conference Center
Security Agreement Change of Name Joint Research Agreement	City: Pittsburgh State: Pennsylvania
Government Interest Assignment Executive Order 9424, Confirmatory License Other	Country: United States Zip: 15260 Additional name(s) & address(es) attached? ☐ Yes ✓ No
A. Patent Application No.(s)	document is being filed together with a new application. B. Patent No.(s) ached? Yes No
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:
Name:Baker Botts L.L.P. Internal Address:	7. Total fee (37 CFR 1.21(h) & 3.41) \$_40.00 Authorized to be charged by credit card
Street Address: 30 Rockefeller Plaza, 44th Floor	 ✓ Authorized to be charged to deposit account ✓ Enclosed None required (government interest not affecting title)
City: New York	8. Payment Information
State: New York Zip:10112	a. Credit Card Last 4 Numbers Expiration Date
Phone Number:	b. Deposit Account Number 02-4377
Fax Number: 212-408-2501 Email Address:	Authorized User Name Baker Botts L.L.P.
9. Signature: Limber 10 - Manni Signature	12/06/2005 Date
Kimberley A. Gavin Name of Person Signing	Total number of pages including cover sheet, attachments, and documents:

Approved for use through 07/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Effective 10/01/2004. Patent fees are subject to annual revision.

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 40.00

Name (Print/Type)

Signature

Complete if Known			
Application Number	10/366,493		
Filing Date	February 12, 2003		
First Named Inventor	Paul D. Robbins		
Examiner Name	(Not Yet Assigned)		
Art Unit	(Not Yet Assigned)		
Attorney Docket No.	AP32573-A-A-A-A (072396 0246)		

METH	IOD OF	PAYMENT (check all	that apply)	pply) FEE CALCULATION (continued)			
√ Check	Cred	lit card Money Order	Other None	ne 3. ADDITIONAL FEES			
Deposit Account:					Small E	Entity	
Deposit Account	02-4			Fee Code	Fee Code	Fee Description	Fee Paid
Number				1051	2051	Surcharge - late filing fee or oath	
Deposit Account Name	Bake	r Botts L.L.P.		1052	2052	Surcharge - late provisional filing fee or cover sheet	
	s author	ized to: (check all that apply)	1053	1053	Non-English specification	
Charge fee		- Property	ny overpayments	1812	1812	For filing a request for ex parte reexamination	n
		al fee(s) or any underpaymen		1804	1804	Requesting publication of SIR prior to Examiner action	
		ited below, except for the fill leposit account.	ling fee	1805	1805	Requesting publication of SIR after Examiner action	
	F	EE CALCULATION		1251	2251	Extension for reply within first month	
1. BASIC F				1252	2252	Extension for reply within second month	ļ
Large Entity	Small En	tity		1253	2253	Extension for reply within third month	
Fee Fee Code	Fee Fe Code	e Fee Description	Fee Paid	1254	2254	Extension for reply within fourth month	
1001	2001	Utility filing fee		1255	2255	Extension for reply within fifth month	
1002	2002	Design filing fee		1401	2401	Notice of Appeal	
1003	2003	Plant filing fee	—	1402	2402	Filing a brief in support of an appeal	
1004	2004	Reissue filing fee	<u> </u>	1403	2403	Request for oral hearing	
1005	2005	Provisional filing fee		1451	1451	Petition to institute a public use proceeding	
SUBTOTAL (1) (\$) 0		1452	2452	Petition to revive - unavoidable			
2 EVEDA	N: A185			1453	2453	Petition to revive - unintentional	
2. EXTRA	LAIM		from	1501	2501	Utility issue fee (or reissue)	
Tatal Claims		Ext <u>ra Claims be</u>	low Fee Paid	1502	2502	Design issue fee	
Total Claims Independent		-20 = X		1503	2503	Plant issue fee	
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, ,		L	=0	1807	1807	Processing fee under 37 CFR 1.17(q)	
Large Entity Fee	Small I	<u>Entity</u> Fee Description		1806	1806	Submission of Information Disclosure Stmt	
Code 1202	Code 2202			8021	8021	Recording each patent assignment per property (times number of properties)	40
1202	2202			1809	2809	Filing a submission after final rejection (37 CFR 1.129(a))	
1203	2203	•		1810	2810	For each additional invention to be	
1204	2204			4004	2004	examined (37 CFR 1.129(b))	
1005	2005	over original pate	j	1801 1802	2801	Request for Continued Examination (RCE)	
1205	2205	** Reissue claims in and over original		1002	1802	Request for expedited examination of a design application	
		SUBTOTAL (2)	\$) 0.00	Other fee (specify)			
**or number	previous	ly paid, if greater; For Reissu		*Reduced by	Basic Fili	ing Fee Paid SUBTOTAL (3) (\$) 40.0	0
	SUBMITTED BY (Complete (if epplicable))						
Name (Print/Type		Vimborlay A	One de	Registrat	ion No.	Talanhara 040 40	

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Kimberley A. Gavin

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDR SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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(Attorney/Agent)

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Telephone

212 408-2529

12/06/2005

AP32573-A-A-A-A (072396.0246)

ASSIGNMENT

WHEREAS, WE, PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; ANDREA GAMBOTTO and JEFFREY C. MAI, citizens of the United States of America, China the United States of America, the United States of America, Italy and the United States of America, respectively, whose post office addresses are 191 Main Entrance Drive, Mt. Lebanon, Pennsylvania 15228; 221 Buchanan Place, Apt. C2, Pittsburgh, Pennsylvania 15228; 5304 Forbes Ave., Pittsburgh, Pennsylvania 15217; 202 Scarborough Dr., Cheswick, Pennsylvania 15024; 1250 South Negley Ave., Pittsburgh, Pennsylvania 15217; and 6112 Alder Street, Apt. E3, Pittsburgh, Pennsylvania 15206, respectively, have made an invention entitled "IDENTIFICATION OF PEPTIDES THAT FACILITATE UPTAKE AND CYTOPLASMIC AND/OR NUCLEAR TRANSPORT OF PROTEINS, DNA AND VIRUSES" as set forth and described in application for Letters Patent of the United States, filed February 12, 2003, and assigned United States Patent Application Serial No. 10/366,493; and

WHEREAS, UNIVERSITY OF PITTSBURGH of the COMMONWEALTH SYSTEM OF HIGHER EDUCATION, a corporation organized and existing under the laws of the State of Pennsylvania, and having an office for the transaction of business at 200 Gardner Steel Conference Center, Pittsburgh, Pennsylvania 15260, is desirous of acquiring the entire right, title and interest in and to said invention and any improvements thereon, and in and to the said application for Letters Patent therefor, and any Letters Patent which may be obtained therefor;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that WE, the said PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO: ANDREA GAMBOTTO and JEFFREY C. MAI, for and in consideration of the sum of One Dollar (\$1.00), lawful money of the United States, to us in hand paid by said UNIVERSITY OF PITTSBURGH, and other valuable considerations unto us moving from said UNIVERSITY OF PITTSBURGH, at or before the enscaling and delivery of these presents, the receipt of which is hereby acknowledged, have sold, assigned, transferred and conveyed and by these presents do sell, assign, transfer and convey, unto said UNIVERSITY OF PITTSBURGH, its successors and assigns, the entire right, title and interest in and to the said invention entitled "IDENTIFICATION OF PEPTIDES THAT FACILITATE UPTAKE AND CYTOPLASMIC AND/OR NUCLEAR TRANSPORT OF PROTEINS, DNA AND VIRUSES" as set forth and described in application for Letters Patent of the United States, filed herewith, and any and all improvements thereon, and in and to said application and any division, continuation or continuation-in-part thereof, and in and to any Letters Patent of the United States which may be issued on any of said applications, and any reissues thereof, and in and to any and all applications for Letters Patent filed in foreign countries for said invention or improvements including all priority rights, and any and all Letters Patent which may be granted in foreign countries therefor, TO HAVE AND TO HOLD THE SAME to the full end of the term or terms for which any and all said Letters Patent may be granted;

AND WE, the said PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; ANDREA GAMBOTTO and JEFFREY C. MAI, do hereby authorize and request the Commissioner of Patents and Trademarks to issue the said Letters Patent of the

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AP32573-A-A-A-A (072396.0246)

United States to said UNIVERSITY OF PITTSBURGH, as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said UNIVERSITY OF PITTSBURGH, its successors and assigns;

AND WE, the said PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; ANDREA GAMBOTTO and JEFFREY C. MAI, for the considerations aforesaid, do hereby covenant and agree to and with said UNIVERSITY OF PITTSBURGH, its successors and assigns, that we have the full power to make this assignment, and that the rights assigned are not encumbered by any grant, license or right heretofore given, and that we, our executors or administrators, shall and will do all lawful acts and things and make, execute and deliver without further compensation, any and all other instruments in writing, further applications, papers, affidavits, powers of attorney, assignments, and other documents which, in the opinion of counsel for said UNIVERSITY OF PITTSBURGH, its successors and assigns, may be required or necessary more effectively to secure to and vest in said UNIVERSITY OF PITTSBURGH, its successors and assigns, the entire right, title and interest in and to said invention and improvements, applications, Letters Patent, rights, titles, benefits, privileges, and advantages hereby sold, assigned, transferred and conveyed, and that we will sign any applications for reissue which may be desired by the owner of the patent or patents which may be issued for the said invention or improvements.

IN WITNESS WHEREOF, WE, the said PAUL D. ROBBINS; ZHIBAO MI; RAYMOND FRIZZELL; JOSEPH C. GLORIOSO; ANDREA GAMBOTTO and JEFFREY C. MAI, have hereunto set our hands and seals on the date below written.

PAUL D. ROBBINS

STATE OF Pennsylvania) (58.: COUNTY OF Alleghony)

BE IT KNOWN, that on this 30 day of November, 2005, before me personally came PAUL D. ROBBINS, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned.

Notary Fublic

Notarial Seal Planae Cliez, Notary Public Olay Of Pitsburgh, Allegheny County My Contrassion Expires Dec. 24, 2005

Member, Pennsylvania Association Of Notaries

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AP32573-A-A-A-A (072396.0246)

ZHIBAO MI

STATE OF Pennsy Ivanial COUNTY OF Allegheny)

BE IT KNOWN, that on this 30 day of November 2005, before me personally came ZHIBAO MI, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned.



Range Giles, Notary Public City Of Pilisburgh, Allegheny County My Commission Expires Dec. 24, 2005

Mambox, Pennsylvania Association Of Natarias

RAYMOND FRIZZELL

STATE OF PENNSY | Vania : 85.:
COUNTY OF Allegheny)

BE IT KNOWN, that on this 30th day of November, 2005, before me personally came RAYMOND FRIZZELL, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned

Noterial Seel Pignoe Gijes, Notary Public Of Patisburgh, Allegheny County

Notary Public

AP32573-A-A-A-A (072396,0246)

STATE OF Pennsylvania)
COUNTY OF Alleghery BE IT KNOWN, that on this 64 day of November, 2005, before me personally came JOSEPH C. GLORIOSO, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned. Carla D. Crawford, Notary Public City Of Pittsburgh, Allegheny County My Commission Expires Aug. 25, 2009 Member, Pennsylvania Association of Notaries ANDREA GAMBOTTO STATE OF : ss.: COUNTY OF BE IT KNOWN, that on this _ __ day of personally came ANDREA GAMBOTTO, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned. Notary Public

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FAX NO. 412 648 8525

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AP32573-A-A-A (072396.0246)

		JOSEPH C. GLORIOSO
STATE OF)	
COUNTY OF	: \$6.;)	
mentioned in and who	executed the foregoing	day of, 2005, before me me known and known to me to be the person assignment, and he acknowledged to me that he the use and purposes therein mentioned.
		Notary Public
		Jumo
		ANDREA GAMBOTTO
STATE OF PENNSY	lvana)	V
STATE OF PENNSY COUNTY OF Allyh	: 85.: eny)	_

Notary Public

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal Carla D. Crawford, Notary Public City Of Pittsburgh, Allegheny County My Commission Expiree Aug. 25, 2009

Member, Pennsylvania Association of Notaries

BE IT KNOWN, that on this 5th day of December, 2005, before me

personally came ANDREA GAMBOTTO, to me known and known to me to be the person mentioned in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed for the use and purposes therein mentioned.

P. 08

AP32573-A-A-A-A (072396.0246)

JEFFREY C. MAI

STATE OF WA

85.:

COUNTY OF KING

Notary Public